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(71) Applicant *(for all designated States except US)*: TRANSPORTONLINE AS [NO/NO]; Boks 280, N–0614 Olso (NO).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: FJELLBERG, Espen [NO/NO]; Hellvik, N–1450 Nesoddtangen (NO). TORP, Stein [NO/NO]; Jotunveien 10, N–1405 Langhus (NO).

(74) Agent: TANDBERGS PATENTKONTOR AS; Boks 7085, N–0306 Oslo (NO).

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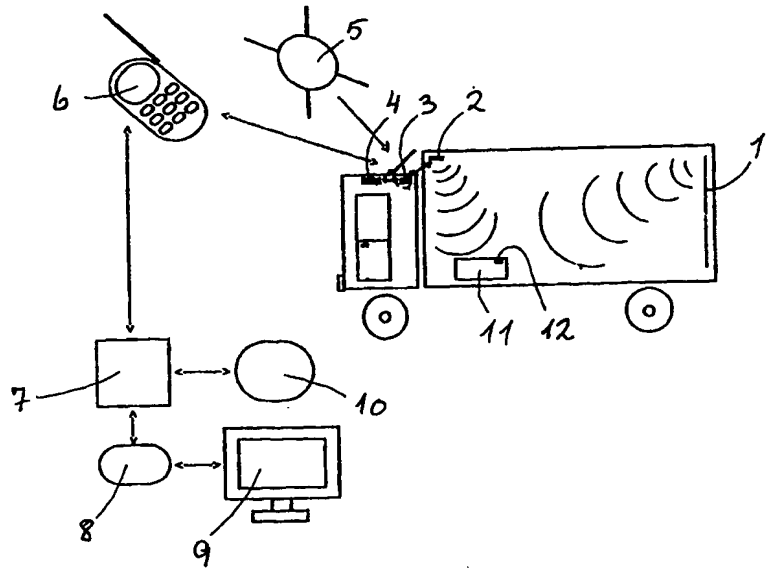
(54) Title: METHOD AND SYSTEM FOR SURVEILLANCE OF PORTABLE ARTICLES



(57) Abstract

Method and system for geographic surveillance and control of portable articles, such as goods, containers etc., thereby registrating articles being brought into or out of a transportation unit together with the information stored in a chip (12) secured to the article, and the geographical position of the transportation unit, to transmit the information through a global telecommunication network to a central processor, and to make the data stored in the central computer available for registered users from their personal computers through a global data network.

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METHOD AND SYSTEM FOR SURVEILLANCE OF PORTABLE ARTICLES

The present invention is related to a system for geographical surveillance and control of portable units.

Systems have been developed to survey for example the localization of lorries from the transportation company. Such systems normally have coded data for specific lorries arriving at specific geographical places or having left such. Furthermore, data have been added with planned arrival times, such times however have not been updated in relation to expected real arrival times.

With known developments attempts have been made to achieve an all over view of the positions for specific vehicles, but not for the single article being transported.

With the surveillance system according to the present invention, complete overview is ensured as to where specific articles are geographically. This is achieved with the surveillance system according to the present invention as defined with the features stated in the claims.

The drawing discloses schematically parts of the invention. Units or articles being controlled can be articles being transported, e.g. goods of different types as single expeditions, containers or other types of units. It also may be different vehicles, cars or trailers.

The object of the system according to the invention is at any time to find the real position for the single units in relation to known geographic localities, also in relation to stores, terminals, possibly also persons.

On each single unit to be transported, a chip* 12 is secured, following the unit to the destination. The chip 12 comprises a microprocessor having memory, antenna and battery as well as a transmitter and receiver adapted for microwaves. The chip 12 is adapted to store in the memory information and further, the stored information may be amended through the receiver on the chip 12 if desired. The chip also may be produced as passive chip 12 without transmitter and battery.

As principally disclosed in the drawing, an article unit 11 is moved through the opening of the lorry. The movement is registered by an antenna 1 enclosing the opening of the lorry,

A registration unit 2 transmits the registrations of the antenna 1 to a computer device 3 adapted for information from the antenna. A processor 4 computes the information from the unit 3, takes down the instant position at any time from the global positioning system, GPS.

The antenna is equipped with two infrared beams covering the entrance portion at a distance from each other. When these beams are broken, it simultaneously is registered wether the article is brought in or out of the vehicle. Simultaneously the same is given to a high frequency transmitter to register the information in the chip 12 being secured to the article which at that moment is moved in such a way that the infrared beams are broken.

The microprocessor 4 may the programmed to transmit information upon predetermined frequencies or times, or on request. The transmission of information from the data processor 4 preferably is performed through the global mobile telephone system GSM, to a database 10 in a server 7.

The server 7 preferably also is server in a global computer network, such as a internet connection 8 in such a way that authorized users through their computers or personal computers 9 can acquire information as to where specific units 11 are at anytime. By development the server may extend this service also to displaying a local map together with relevant information as to the location as to where the transportation is going on at the moment.

The transportation unit on the drawing discloses a lorry, but as such is principally may be any transportation unit such as train, boat etc. or a storing unit, such as a store, a terminal etc.

When the article 11 is taken out of the lorry, the antenna 1 will registrate this and transmit the message that the article 11 is taken out of the system.

By the start of the transportation all data connected to the article 11 are put into the database connected to the specific chip 12 which is recognized by a unique reference number. This information may, in those countries where this is possible, be used as freight and custom papers, thereby ensuring and simplifying clarifications.

The data chips 12 suitably also may be reprogrammed from a user through GSM to the internal radio transmitter of the transportation unit. This may be necessary for example when changes arise or misunderstandings may arise in specific countries as to the stored information.

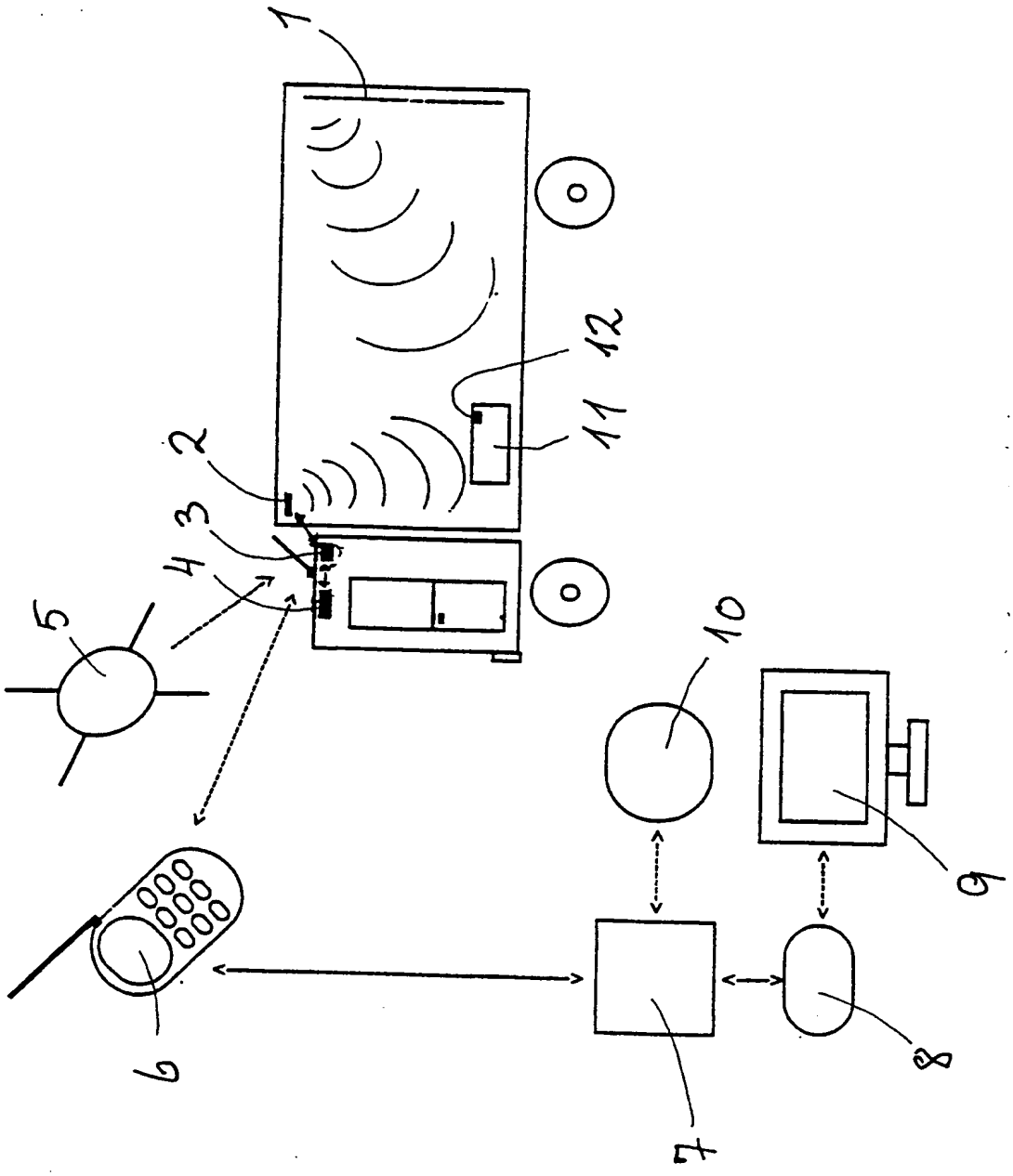
The system according to the invention suitably also may be used in connection with storing of units, as the units 11 are registered when they are brought into a store and once again registered when they are brought of it. The antenna 1 in this connection may be arranged around the entrances of the stores or terminals.

Patent Claims

1. Method for geographic surveillance and control of portable articles, such as goods, containers etc, **CHARACTERIZED IN** registrating articles being brought into or out of a transportation unit together with the information stored in a chip (12) secured to the article, and the geographical position of the transportation unit, to transmit the information through a global telecommunication network to a central processor, and to make the data stored in the central computer available for registered users from their personal computers through a global data network.

2. Method according to claim 1, **CHARACTERIZED IN** the data chips (12) being programmable through the central computer.

3. System for geographic surveillance and control of portable articles, such as goods, containers etc, **CHARACTERIZED IN** any transportation unit connected included in the system comprising an antennae (1) surrounding the entrance and the transportation unit, adapted to register if an article is brought in or out of the unit and to activate a radio transmitter in the unit to register signals from a data chip (12) secured to the article and to connect these data to the position data of the transportation unit from a global positioning system and to transmit all data to a central data processor through a global mobil communication system, and that the data processor being adapted for communication with users through their personal data computers through a global data network.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INTERNATIONAL SEARCH REPORT

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PCT/NO 98/00386

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: G08G 1/127, G01S 5/00
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: G01S, G08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 19504733 A1 (SIEMENS AG), 8 August 1996 (08.08.96), see the whole document ---	1,3
Y	DE 4213110 A1 (SCHMIDTCHEN, KARL-HEINZ), 28 October 1993 (28.10.93), see the whole document ---	1,3

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19504733 A1	08/08/96	NONE	
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